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DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the [Day/Night Noise Level Calculator Electronic Assessment Tool Overview \(/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/\)](#).

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	1011 N Topeka, Wichita KS 67214
Record Date	11/07/2020
User's Name	Brad Snapp
Road # 1 Name:	1000 N Broadway

Road #1

Vehicle Type	Cars <input checked="" type="checkbox"/>	Medium Trucks <input checked="" type="checkbox"/>	Heavy Trucks <input checked="" type="checkbox"/>
Effective Distance	187	187	187
Distance to Stop Sign			
Average Speed	30	30	30
Average Daily Trips (ADT)	15627	229	524
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56	47	61
Calculate Road #1 DNL	63	Reset	

Railroad #1 Track Identifier: BNSF Elevated Tracks

Rail # 1

Train Type	Electric <input type="checkbox"/>	Diesel <input checked="" type="checkbox"/>
Effective Distance		1216
Average Train Speed		30
Engines per Train		4
Railway cars per Train		120
Average Train Operations (ATO)		8
Night Fraction of ATO		15
Railway whistles or horns?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
Bolted Tracks?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>

Train DNL	0	60
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Calculate Rail #1 DNL	60	Reset
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Railroad #2 Track Identifier:	Wichita Terminal Authority
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Rail # 2

Train Type	Electric <input type="checkbox"/>	Diesel <input checked="" type="checkbox"/>
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Effective Distance		1216
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Average Train Speed		10
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Engines per Train		1
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Railway cars per Train		20
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Average Train Operations (ATO)		1
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Night Fraction of ATO		15
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Railway whistles or horns?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
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Bolted Tracks?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
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Train DNL	0	49
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Calculate Rail #2 DNL	49	Reset
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Add Road Source	Add Rail Source
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Airport Noise Level	
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Loud Impulse Sounds? Yes No

Combined DNL for all
Road and Rail sources

65

Combined DNL including Airport

N/A

Site DNL with Loud Impulse Sound

Calculate

Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative:** Cancel the project at this location
- **Other Reasonable Alternatives:** Choose an alternate site
- **Mitigation**
 - Contact your Field or Regional Environmental Officer (</programs/environmental-review/hud-environmental-staff-contacts/>)
 - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
 - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
 - Incorporate natural or man-made barriers. See *The Noise Guidebook* (</resource/313/hud-noise-guidebook/>)
 - Construct noise barrier. See the Barrier Performance Module (</programs/environmental-review/bpm-calculator/>)

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (</resource/3822/day-night-noise-level-assessment-tool-user-guide/>)

Day/Night Noise Level Assessment Tool Flowcharts (</resource/3823/day-night-noise-level-assessment-tool-flowcharts/>)